Ledger Screenshot:

Ledger contains Operation id and type, Microseconds Running, Client IP address, Namespace/Collection on which operation is running on, Current and available connections, Network byte input and byte output, Network number of requests, Total number of inserts, queries, updates at the moment, Total number of updates at the moment, Number of page faults, Virtual and resident memory of a process

```
_id: ObjectId("5aaaf698d49ad729c08f58db")
opid: 291619
operation: "update"
microsecs_running: 330
client: "127.0.0.1:36720"
namespace: "POCDB.POCCOLL5"
time: 2018-03-15 08:41:28.322
current connections: 9
available connections: 51191
active_clients: 16
current queue: 0
network_bytesIn: 86200665
network bytesOut: 56528302
network_numRequests: 291360
opcounters_insert: 144862
opcounters query: 144414
opcounters_update: 143942
extra_info_page_faults: 193
memory_virtual: 1029
memory_resident: 738
```

Screenshot: kick start the load test

```
[ubuntu@ip-172-31-27-35:~$ java -jar POCDriver.jar -k 20 -i 20 -u 20 -d 600 -t 3 -e -y 10 MongoDB Proof Of Concept - Load Generator Worker thread 0 Started. Worker thread 1 Started. Worker thread 2 Started.
```

After 10 seconds, 15165 new records inserted — collection has 15165 in total 1387 inserts per second since last report 0.00 % in under 50 milliseconds 144 keyqueries per second since last report 100.00 % in under 50 milliseconds 1453 updates per second since last report 90.48 % in under 50 milliseconds 0 rangequeries per second since last report 100.00 % in under 50 milliseconds

After 20 seconds, 36645 new records inserted — collection has 36645 in total 2148 inserts per second since last report 0.00 % in under 50 milliseconds 210 keyqueries per second since last report 100.00 % in under 50 milliseconds 2157 updates per second since last report 90.36 % in under 50 milliseconds 0 rangequeries per second since last report 100.00 % in under 50 milliseconds

Screenshot: Mongostat to check performance

```
[ubuntu@ip-172-31-27-35:~$ mongostat
insert query update delete getmore command % dirty % used flushes vsize
                                                                               res qr|qw ar|aw netIn netOut conn
                                                                       280M 53.0M
                                                                                                                 4 2018-03-15T21:09:53Z
    *0
          *0
                  *0
                         *0
                                        1410
                                                  0.0
                                                         0.1
                                                                    0
                                                                                     010
                                                                                            010 1.99k 52.7k
                                        18 | 0
                                                  0.0
                                                         0.1
                                                                       280M 53.0M
                                                                                     0 0
                                                                                            0|0 1.67k
                                                                                                                 3 2018-03-15T21:09:54Z
    *0
                                                                                                        286k
           *0
                  *0
                                                                                                                 2 2018-03-15T21:09:55Z
    *0
                                         1910
                                                                       280M
                                                                             53.0M
                                                                                            010 1.74k
                                                                                                         267k
    *0
           *0
                  *0
                                        14 | 0
                                                  0.0
                                                          0.1
                                                                       280M 53.0M
                                                                                            010 1.99k
                                                                                                       52.1k
                                                                                                                 4 2018-03-15T21:09:56Z
                          *0
         416
   339
                                        3410
                                                                                                                 5 2018-03-15T21:09:57Z
                 331
                         *0
                                                  0.1
                                                         1.9
                                                                       304M 73.0M
                                                                                     010
                                                                                            110 216k
                                                                                                        343k
  1016
        1100
                1181
                          *0
                                        26 | 0
                                                  0.5
                                                          5.2
                                                                       339M
                                                                              106M
                                                                                     010
                                                                                            1|0 636k
                                                                                                        551k
                                                                                                                 7 2018-03-15T21:09:58Z
  1429
         1258
                4193
                          *0
                                        10 | 0
                                                          7.7
                                                                       364M
                                                                              130M
                                                                                            0|0 1.08m
                                                                                                         389k
                                                                                                                 9 2018-03-15T21:09:59Z
   864
         1046
               13980
                          *0
                                   0
                                        2410
                                                  1.3
                                                         8.6
                                                                    0
                                                                       374M
                                                                              140M
                                                                                     010
                                                                                            0|1 1.67m
                                                                                                        592k
                                                                                                                 5 2018-03-15T21:10:007
  1854
         1709
                1949
                          *0
                                        1010
                                                  2.0
                                                        10.3
                                                                       391M
                                                                              157M
                                                                                     010
                                                                                            0|1 1.10m
                                                                                                        452k
                                                                                                                 7 2018-03-15T21:10:01Z
                                         47 0
                                                                                            0|0 977k
  1621
        1652
                1667
                          *0
                                                  2.5
                                                         11.5
                                                                       405M
                                                                              170M
                                                                                     0 0
                                                                                                       1.11m
                                                                                                                 5 2018-03-15T21:10:02Z
                                                dirty %
                                                        used flushes
insert query
              update delete
                             getmore command
                                                                      vsize
                                                                                   qr | qw
                                                                                          ar aw netIn netOut conn
  1896
        1828
                1793
                         *0
                                   0
                                        2810
                                                  3.1
                                                        12.7
                                                                    0
                                                                       418M
                                                                              182M
                                                                                     010
                                                                                            010 1.11m
                                                                                                        692k
                                                                                                                 9 2018-03-15T21:10:03Z
                                                  3.7
                                                                       430M
                                                                                                                 7 2018-03-15T21:10:04Z
  1792
                                        2410
                                                                              194M
                                                                                            010 1.05m
         1822
                1636
                          *0
                                                         13.9
                                                                                     010
                                                                                                         817k
  2032
         1783
                1997
                                         2010
                                                         15.0
                                                                       443M
                                                                              206M
                                                                                            0|0 1.17m
                                                                                                                   2018-03-15T21:10:05Z
                                        18|0
  1727
         2079
                1809
                                                  5.0
                                                         16.2
                                                                       456M
                                                                              218M
                                                                                            0|0 1.08m
                                                                                                         744k
                                                                                                                 8 2018-03-15T21:10:06Z
                          *0
                                                                                                         459k
                                                                                                                 5 2018-03-15T21:10:077
  2029
         1815
                2035
                         *0
                                   0
                                        1010
                                                  5.2
                                                         17.4
                                                                    0
                                                                       468M
                                                                              229M
                                                                                     010
                                                                                            010 1.18m
                                        27 0
                                                                       482M
                                                                                                                 5 2018-03-15T21:10:08Z
  2080
                                                                              242M
                                                                                            0|0 1.24m
                                                                                                         822k
         2143
                2043
                          *0
                                                  5.3
                                                         18.6
                                                                                     010
         2159
                2177
                                        28 | 0
                                                                       495M
                                                                                                                 5 2018-03-15T21:10:09Z
  2220
                                                                              256M
                                                                                            0|0 1.31m
  2185
        2003
                2160
                          *0
                                   0
                                        1010
                                                  4.9
                                                        21.0
                                                                    0
                                                                       508M
                                                                              268M
                                                                                     010
                                                                                            0|0 1.28m
                                                                                                        503k
                                                                                                                 8 2018-03-15T21:10:107
                                                                                                                 5 2018-03-15T21:10:11Z
  2090
         2282
                2148
                         *0
                                   0
                                        2410
                                                  5.1
                                                         22.3
                                                                       522M
                                                                              281M
                                                                                     010
                                                                                            110 1.28m
                                                                                                        877k
                                                                                            1|0 1.21m
  2063
        1924
                2063
                          *0
                                         6|0
                                                  4.8
                                                        23.4
                                                                       535M
                                                                              293M
                                                                                     010
                                                                                                         480k
                                                                                                                 6 2018-03-15T21:10:12Z
insert query
              update delete getmore co
                                        mmand
                                                dirty % used flushes
                                                                       vsize
                                                                               res
                                                                                   qr|qw
                                                                                          arlaw netIn netOut conn
        2102
                                                                                                                 5 2018-03-15T21:10:137
  2050
                2067
                          *0
                                   0
                                        3010
                                                  4.8
                                                        24.6
                                                                    0
                                                                       548M
                                                                              304M
                                                                                     010
                                                                                            010 1.23m
                                                                                                         826k
                                                                                                                 8 2018-03-15T21:10:14Z
                                                                              316M
  2049
        2059
                2007
                          *0
                                        1610
                                                  4.7
                                                        25.7
                                                                       561M
                                                                                     010
                                                                                            010 1.22m
                                                                                                        548k
  2142
         2141
                2173
                                         2110
                                                  4.7
                                                         26.8
                                                                       573M
                                                                              327M
                                                                                      010
                                                                                            0|0 1.28m
                                                                                                         706k
                                                                                                                 7 2018-03-15T21:10:15Z
  2425
         2218
                2210
                                        1810
                                                                       588M
                                                                              341M
                                                                                            0|0 1.39m
                                                                                                         658k
                                                                                                                 5 2018-03-15T21:10:16Z
                                                  5.2
                                                         28.2
  1994
        2165
                2052
                          *0
                                   0
                                        3210
                                                  5.2
                                                        29.2
                                                                    0
                                                                       600M
                                                                              352M
                                                                                     010
                                                                                            1|0 1.22m
                                                                                                        832k
                                                                                                                 5 2018-03-15T21:10:177
         2444
                2723
                                        22 | 0
                                                         30.6
                                                                       614M
                                                                              364M
                                                                                            0|0 1.59m
                                                                                                         846k
                                                                                                                 9 2018-03-15T21:10:18Z
  2723
                          *0
                                                  6.2
                                                                                     010
        2460
                2451
                                                  5.7
                                                                                            0|0 1.44m
                                                                                                                 5 2018-03-15T21:10:19Z
  2403
                                        1510
                                                         31.9
                                                                       627M
                                                                              376M
                                                                                      010
                                                                                                         656k
  2651
        2668
                2548
                          *0
                                        17 | 0
                                                         33.2
                                                                    0
                                                                       642M
                                                                              389M
                                                                                            0|0 1.57m
                                                                                                        661k
                                                                                                                11 2018-03-15T21:10:20Z
                                                  5.6
                                                                                     0 0
  2629
         2664
                2664
                          *0
                                        2310
                                                  5.5
                                                         34.6
                                                                       657M
                                                                              402M
                                                                                            0|0 1.57m 1.03m
                                                                                                                 5 2018-03-15T21:10:21Z
        2701
                2720
                                                        35.9
                                                                              416M
                                                                                            1|1 1.60m
                                                                                                        936k
                                                                                                                 7 2018-03-15T21:10:22Z
  2690
                          *0
                                        3110
                                                                       672M
                                                  5.3
```

Screenshot of ledger data Visualisation in mongodb compass

